

Didactic value of gamification tools for teaching modeling as a method of learning and cognitive activity at school

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Abstract

© 2018 by the authors. The relevance of this article is determined by the possibility to increase the efficiency of teaching modeling at schools by means of involving modern gaming and educational platforms in students' cognitive activity. The problem of the study results from the contradiction between the broad potential of the gamification tools to motivate and involve students in modeling, to improve their skills, and the ideas of the general methodology about gamifying the educational process as well as the lack of well-designed techniques and methods of using the appropriate software to teach modeling at school. The purpose of the study is to define the didactic value of the gamification tools used to teach modeling at school and to develop a methodological approach to the structured lesson planning using computer game instruction technology. The article describes the types of schoolchildren activities, which allow the use of gamification tools for modeling, to develop schoolchildren's research skills and the ability to use modern tools to solve theoretical and experimental problems. It describes methodological methods and recommendations on organizing information and pedagogical interaction between the participants of the educational process by applying educational programs available on gaming platforms both at the level of personal communication between the teacher and the student, and at the level of the tripartite "teacher-student-computer" interaction. The results of the study can be used, firstly, to change the techniques and methods of teaching modeling at school; secondly, to improve conventional training programs included in the curriculum for university students of pedagogical departments and faculties; thirdly, to develop and improve specific educational programs in various subjects on the gaming platforms for schools in order to improve the quality of education, social integration, and career orientation.

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Keywords

Activity-based approach to the educational process, Computer game, Gamification, Teaching modeling at school, Tools of gamification of education

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